

Population Health

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Population Health

What is population Health?



Population health is an approach to health that aims to improve the health of the entire population and to reduce health inequities among population groups.

In order to reach these objectives, it looks at and acts upon the broad range of factors and conditions that have a strong influence on our health.

Population Health History

“These things one ought to consider most attentively, and concerning the waters which the inhabitants use, whether they be marshy and soft, or hard, and running from elevated and rocky situations, and then if saltish and unfit for cooking; and the ground, whether it be naked and deficient in water, or wooded and well watered, and whether it lies in a hollow, confined situation, or is elevated and cold; and the mode in which the inhabitants live, and what are their pursuits, whether they are fond of drinking and eating to excess, and given to indolence, or are fond of exercise and labor, and not given to excess in eating and drinking.”



Hippocrates. On Airs, Waters and Places. 400 BCE

Population Health History

1821. Louis Villermé : Récherches statistiques sur la Ville de Paris

In A History of Public Health by G. Rosen, 1958. MD Publications

1974. Marc Lalonde : A New Perspective on the Health of Canadians

Government of Canada

1994. R. Evans, M. Barer and T. Marmor: Why Are Some People Healthy and Others Not?

Aldine de Gruyter

1996. Richard Wilkinson: Unhealthy Societies

Routledge

Population Health: UWA

**U.S.A: RICHEST Nation. BIG GAP Civilization.
SICKEST Population.**

WHY do people in these countries live longer than we do in the United States?

OUR GREATEST HEALTH HAZARD is the economic gap between the rich and the poor.

With greater economic inequality comes worse health
— lower life expectancy and higher mortality rates.

The U.S. spends the most money on health care, but ranks 26th in life expectancy.

All of the countries that rank higher in the Health Olympics have a smaller gap in income distribution between their richest and poorest citizens.

HEALTH OLYMPICS 2003 TOP 26 FINISHERS

Health ranked by average number of years lived.

1	Japan	14	Austria
2	Sweden	15	Netherlands
3	Hong Kong	16	Luxembourg
4	Iceland	17	New Zealand
5	Canada	18	Greece
6	Spain	19	Cyprus
7	Australia	20	Malta
8	Switzerland	21	Germany
9	Israel	22	United Kingdom
10	Norway	23	Costa Rica
11	France	24	Finland
12	Italy	25	Singapore
13	Belgium	26	UNITED STATES

Hastings Center Report

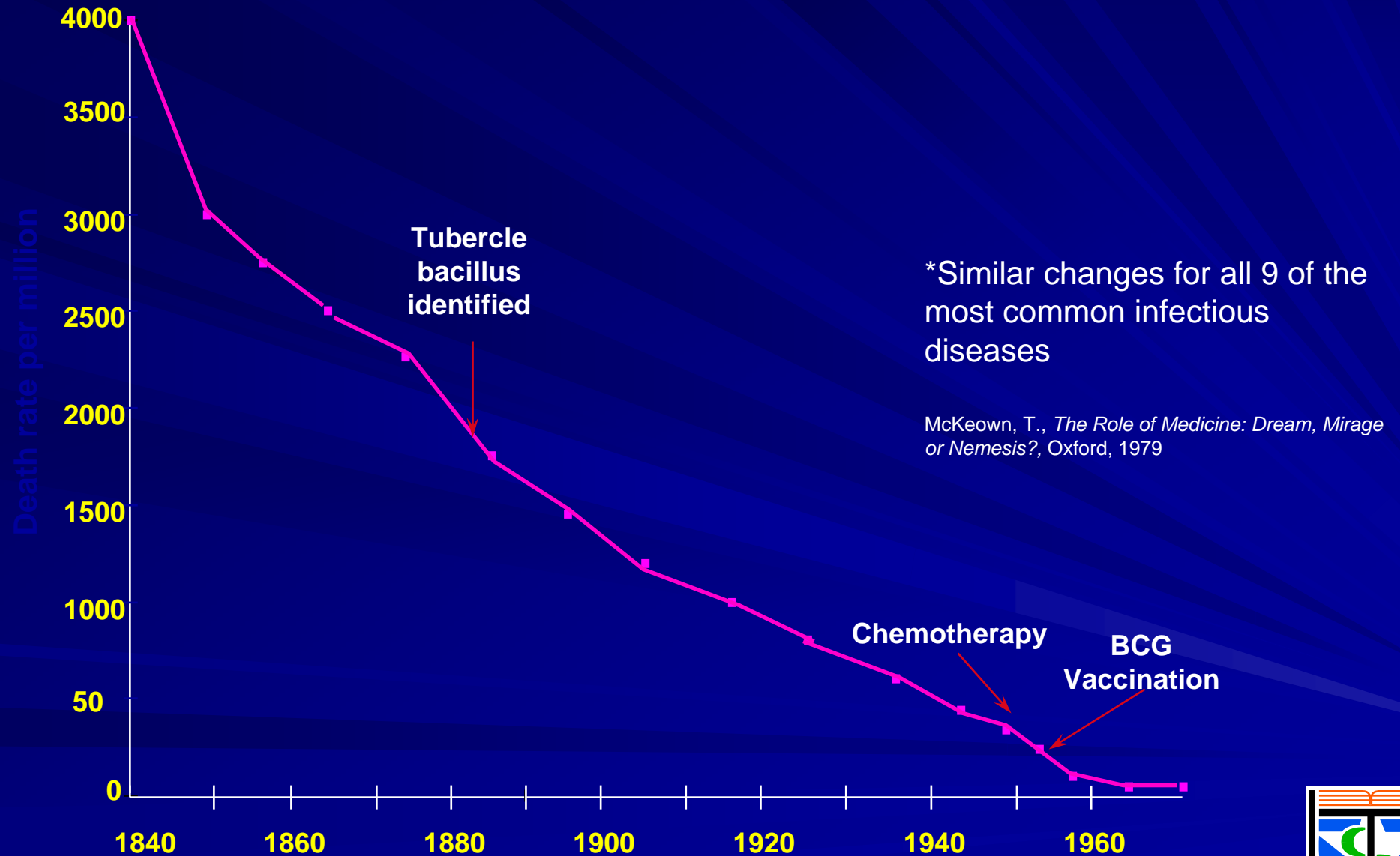
“In both clinical medicine and public health there needs to be a great strengthening of a social science research capacity. The equivalent of a world-wide epidemiological effort to trace the socially influenced causes of disease would be as pertinent as the present effort to map the human genome.”

HCR, November/December, 1996



Respiratory Tuberculosis *

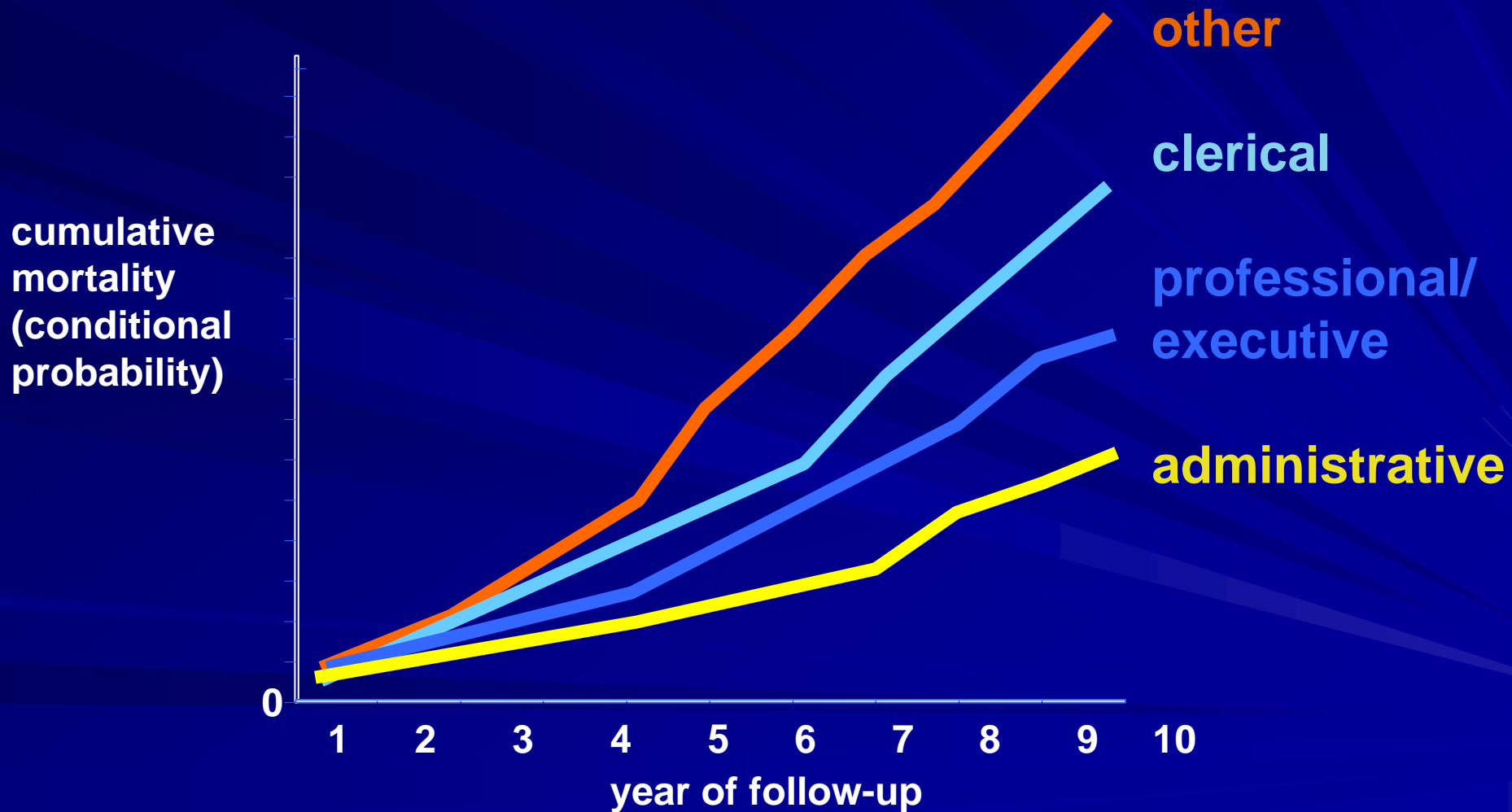
Mean Annual Death Rates UK 1840-1970



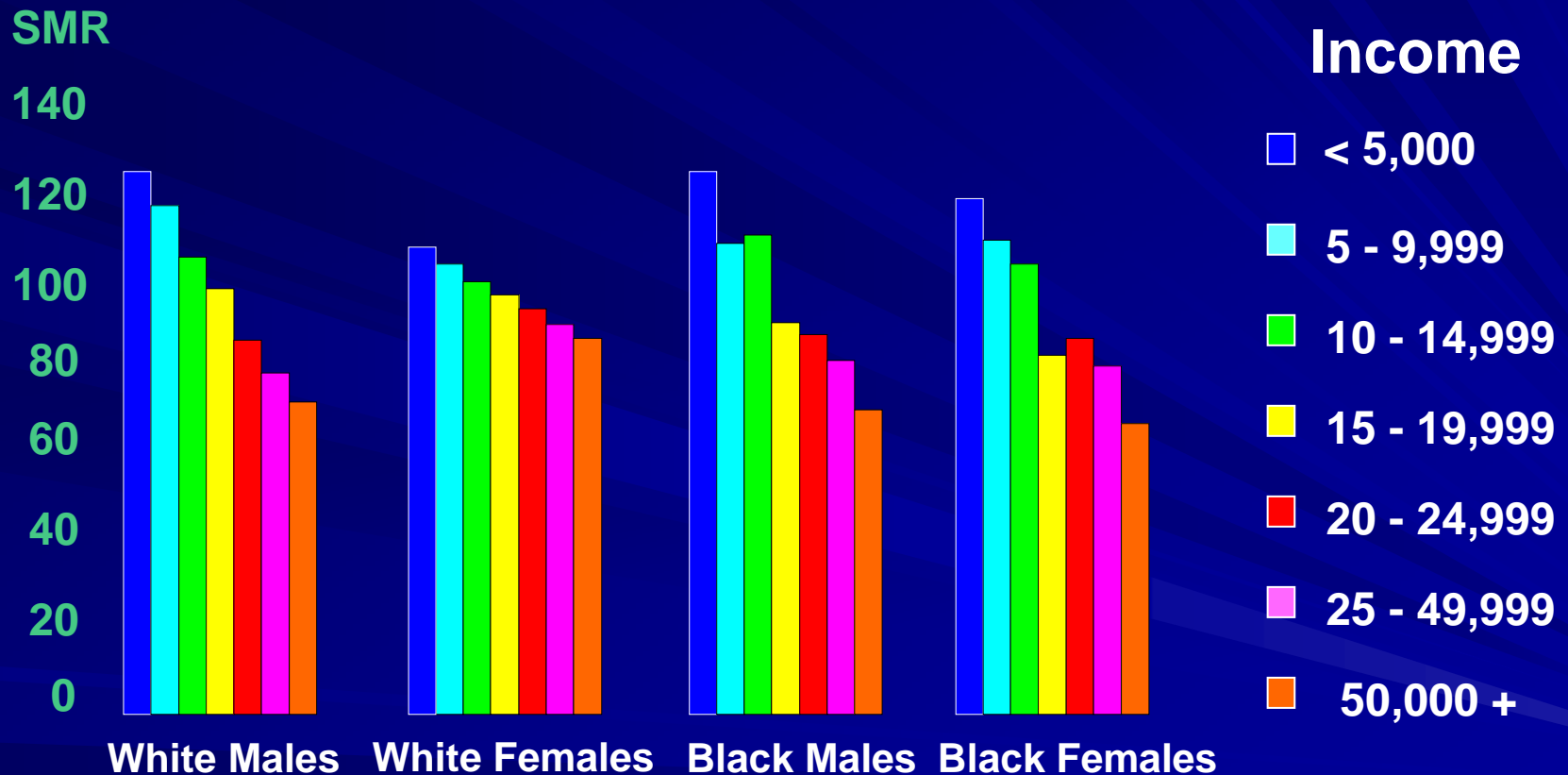
Mortality of Males by Social Class, UK 1911-1981

Year	Professional	Manageria I	Skilled Manual & Non-Manual	Semi- Skilled	Unskilled
1911	88	94	96	93	142
1921	82	94	95	101	125
1931	90	94	97	102	111
1951	86	92	101	104	118
1961	76	81	100	103	143
1971	77	81	104	114	137
1981	66	76	103	116	166

U.K. CIVIL SERVICE Mortality - All Causes



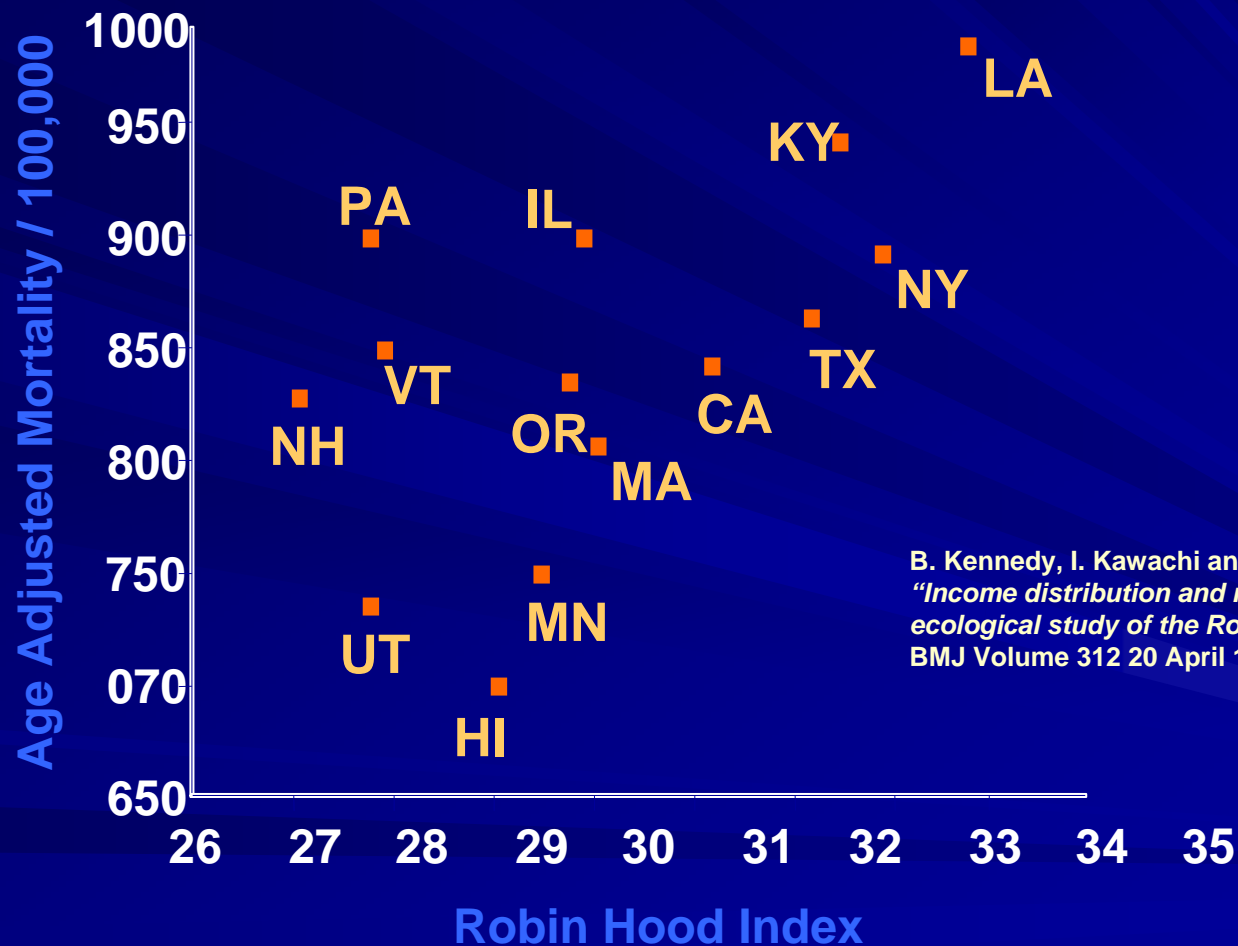
All- Cause Mortality by Income in Subjects 25 Years Old and Older



George A. Kaplan, and Julian E. Keil, *Socioeconomic Factors and Cardiovascular Disease: A Review of the Literature*, Circulation 88(4):1973-1998,1993

Income Inequality and Mortality

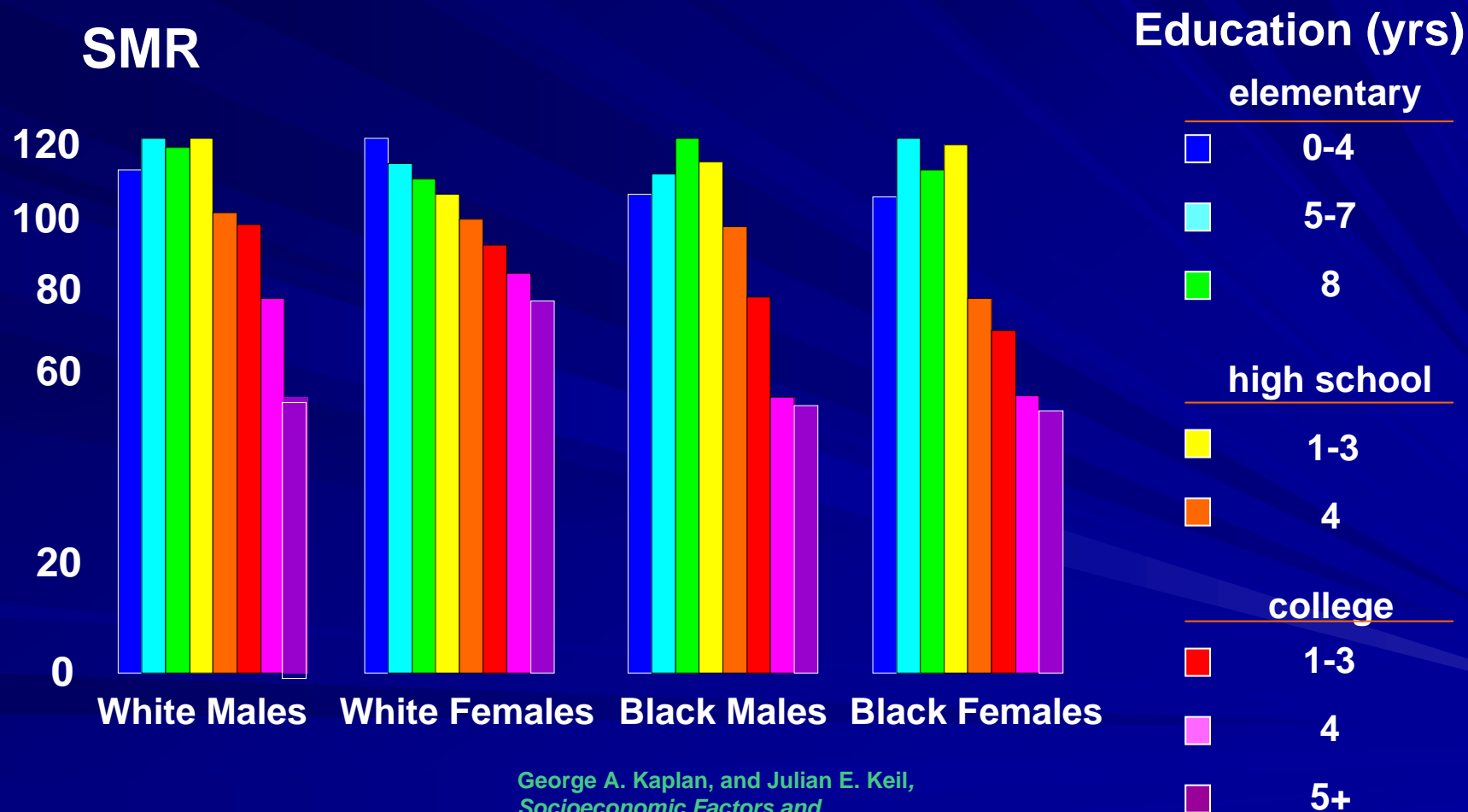
U.S. Robin Hood Index, 1990



B. Kennedy, I. Kawachi and D. Prothrow-Stith,
"Income distribution and mortality: cross sectional
ecological study of the Robin Hood Index in the U.S."
BMJ Volume 312 20 April 1996

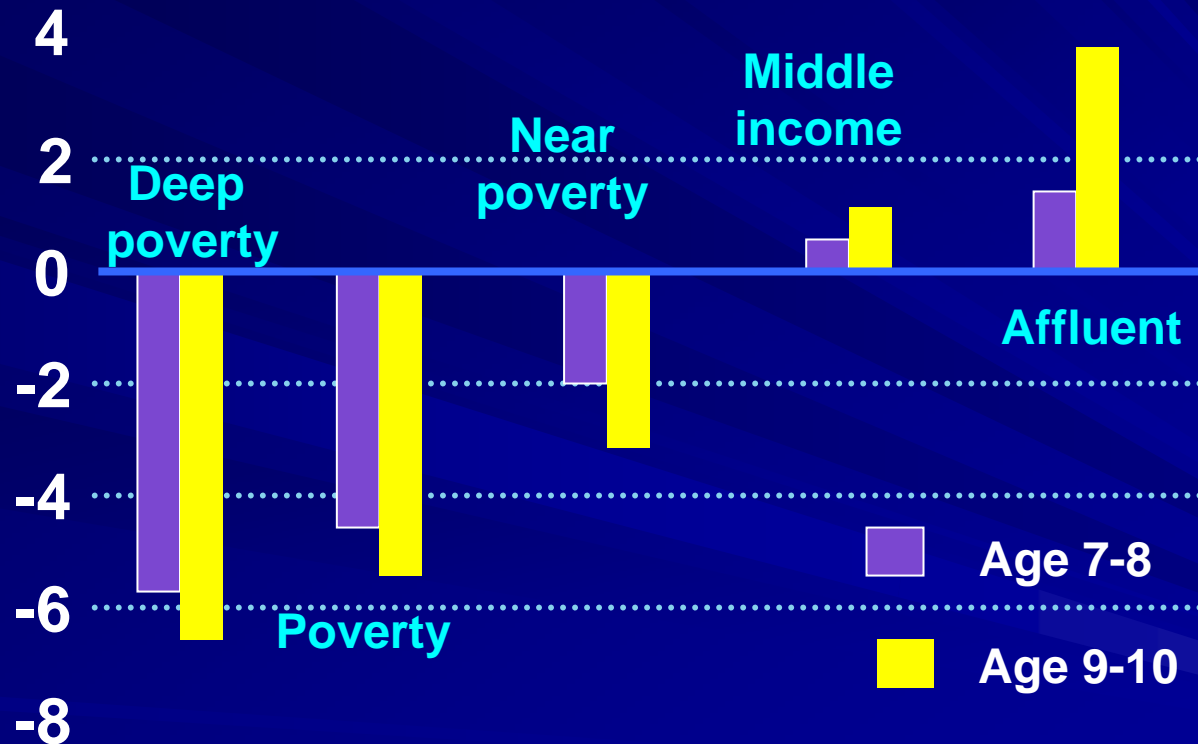


All-Cause Mortality by Education in Subjects 25 Years Old and Older



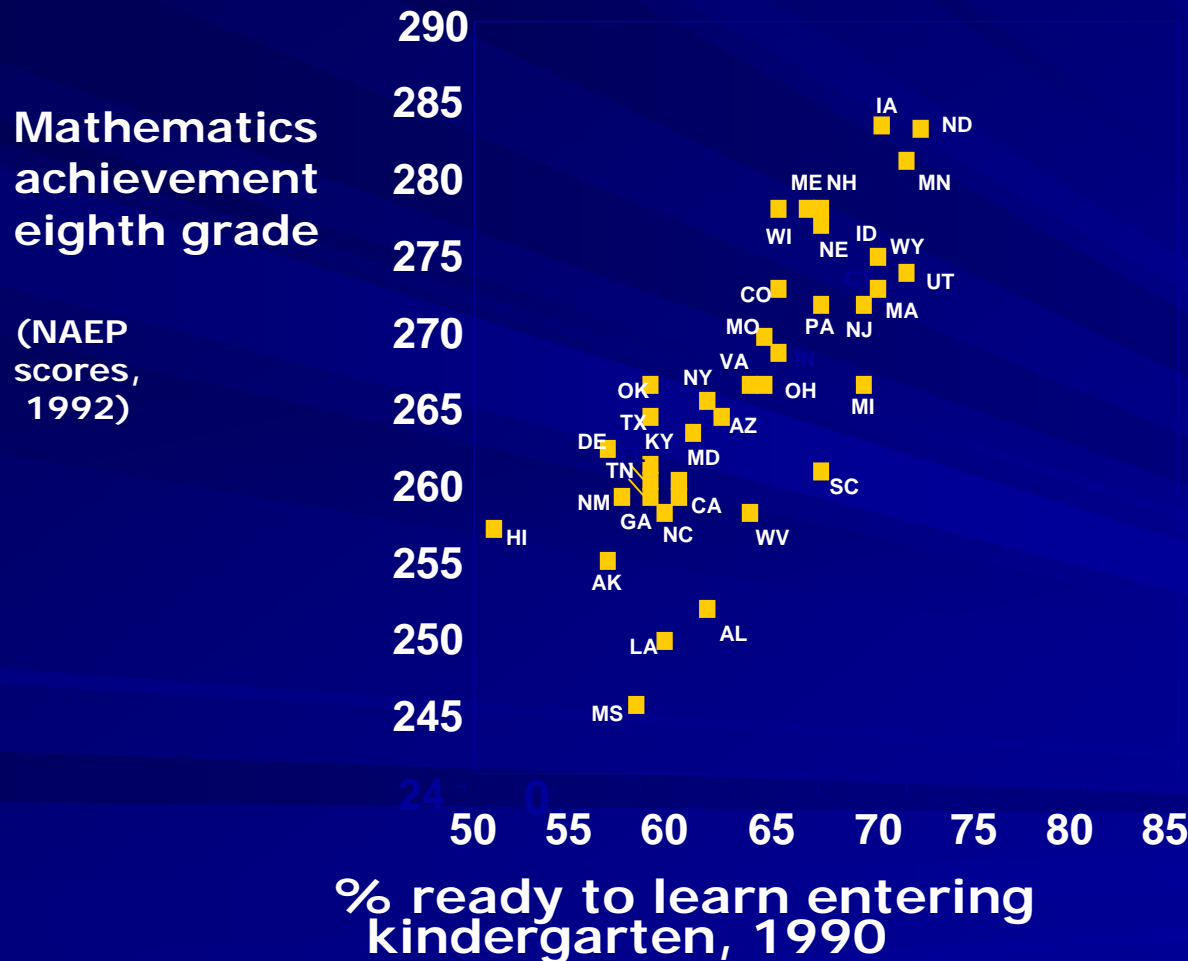
George A. Kaplan, and Julian E. Keil,
*Socioeconomic Factors and
 Cardiovascular Disease: A Review of the
 Literature, Circulation 88(4):1973-1998,1993*

Income to Needs and Math Achievement of Children in the U.S. (NLSY Data Set, PIAT Math)



. Brooks-Gunn, G.J. Duncan, P. Rebello, "Are SES Gradients for Children Similar to Those for Adults? Achievement and Health of Children in the United States" Draft of a chapter to appear in THE HEALTH AND PSYCHOLOGICAL WEALTH OF NATIONS, prepared by the Canadian Institute for Advanced Research. November 8, 1996

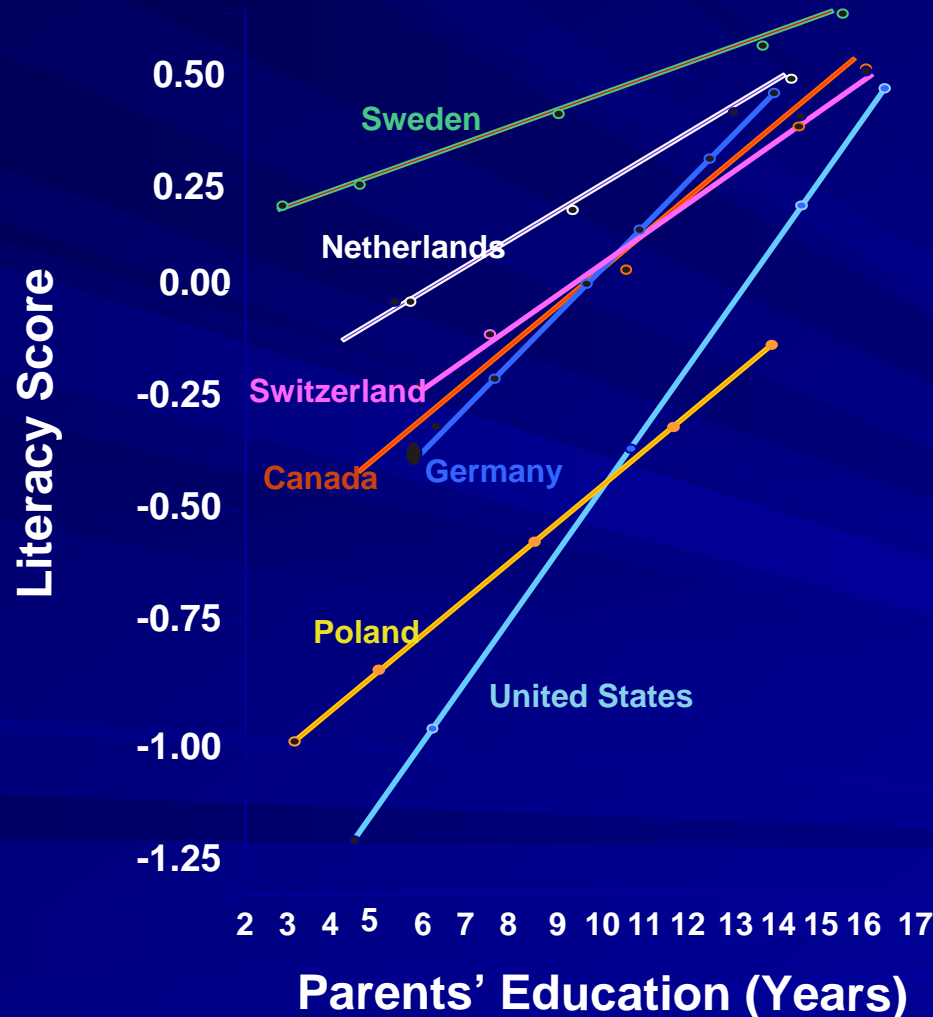
Mathematics Achievement in Eighth Grade and Readiness to Learn in Kindergarten in U.S. States



Victor Fuch and Diane Reklis, Adding up the Evidence on Readiness to Learn, Jobs and Capital, Summer, 1997, pg. 27-29

SES Gradients for Youth for Seven OECD Countries

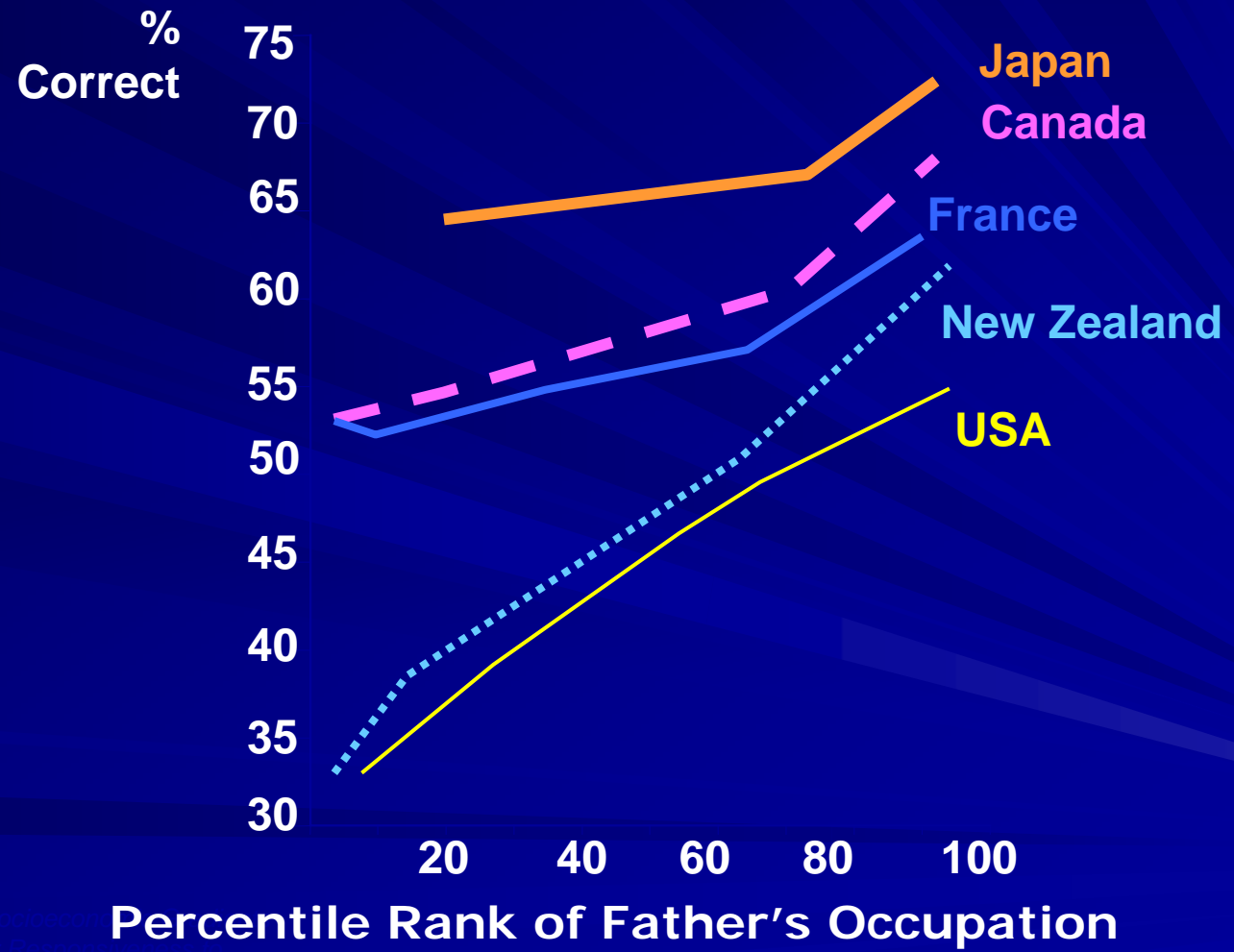
1994 International Adult Literacy Study



J. Douglas Willms, *Quality and Inequality in Children's Literacy: The Effects of Families, Schools and Communities* Faculty of Education, University of Brunswick. 24 April 1997
DRAFT

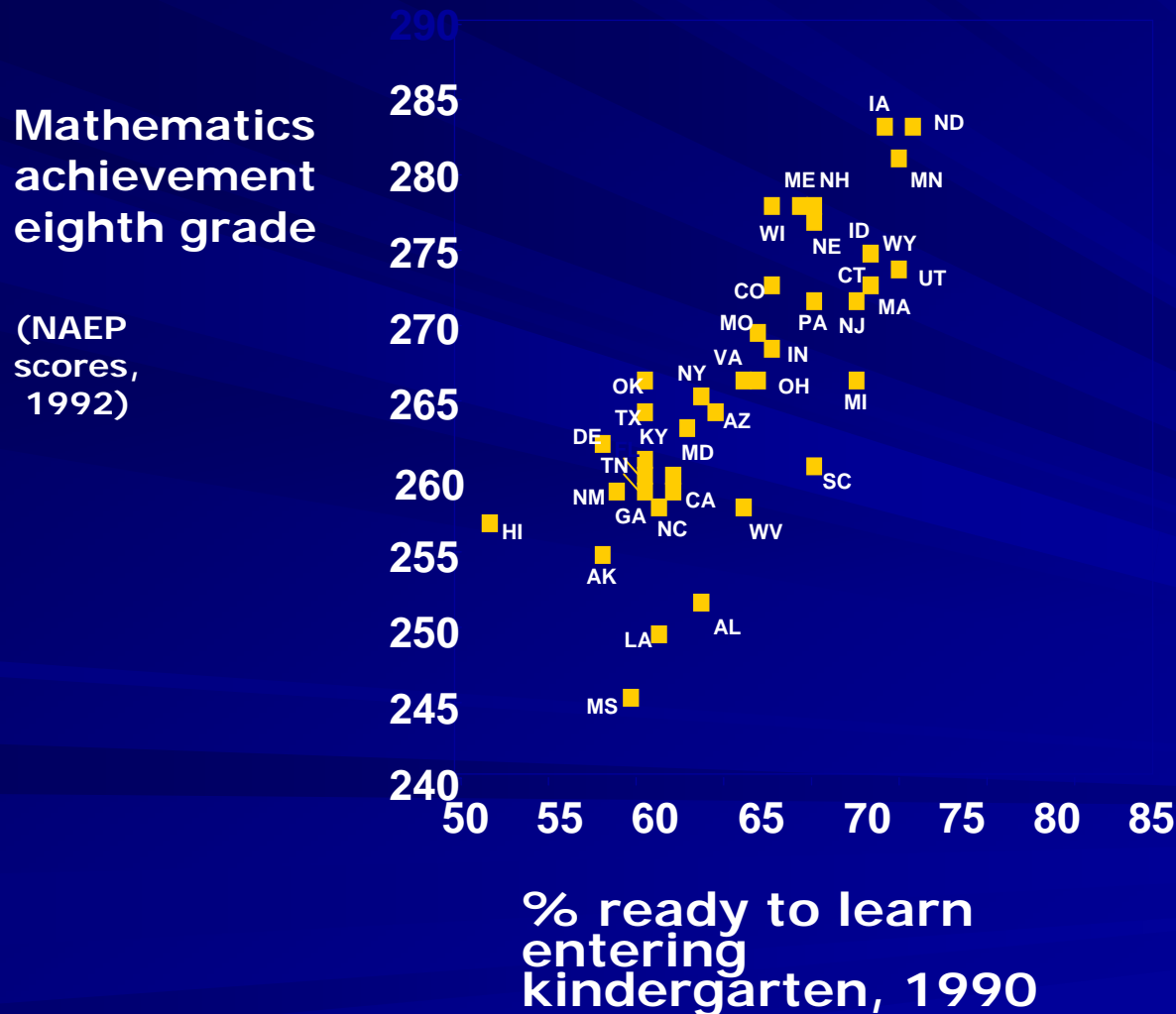
Relationship Between Math Achievement and Father's Occupation

Results from
Second
International
Mathematics
Study: Score on
Subset of 10
Advanced
Items



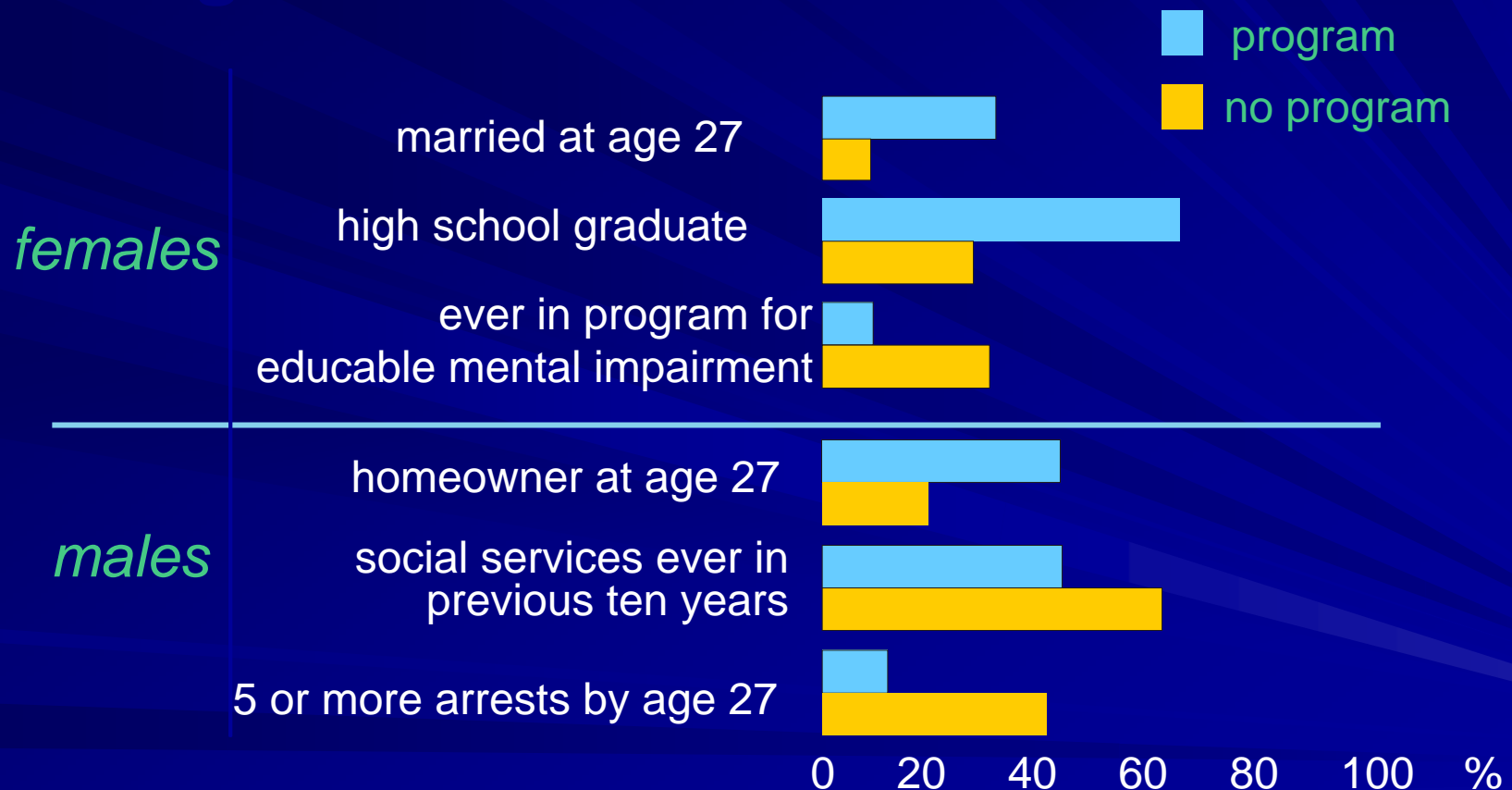
Case, Robbie. "A New Look at Socioeconomic In-School Achievement and their Response to Compensatory Education." "Center for Educational Research at Stanford and Institute for Child Study, University of Toronto

Mathematics Achievement in Eighth Grade and Readiness to Learn in Kindergarten in U.S. States



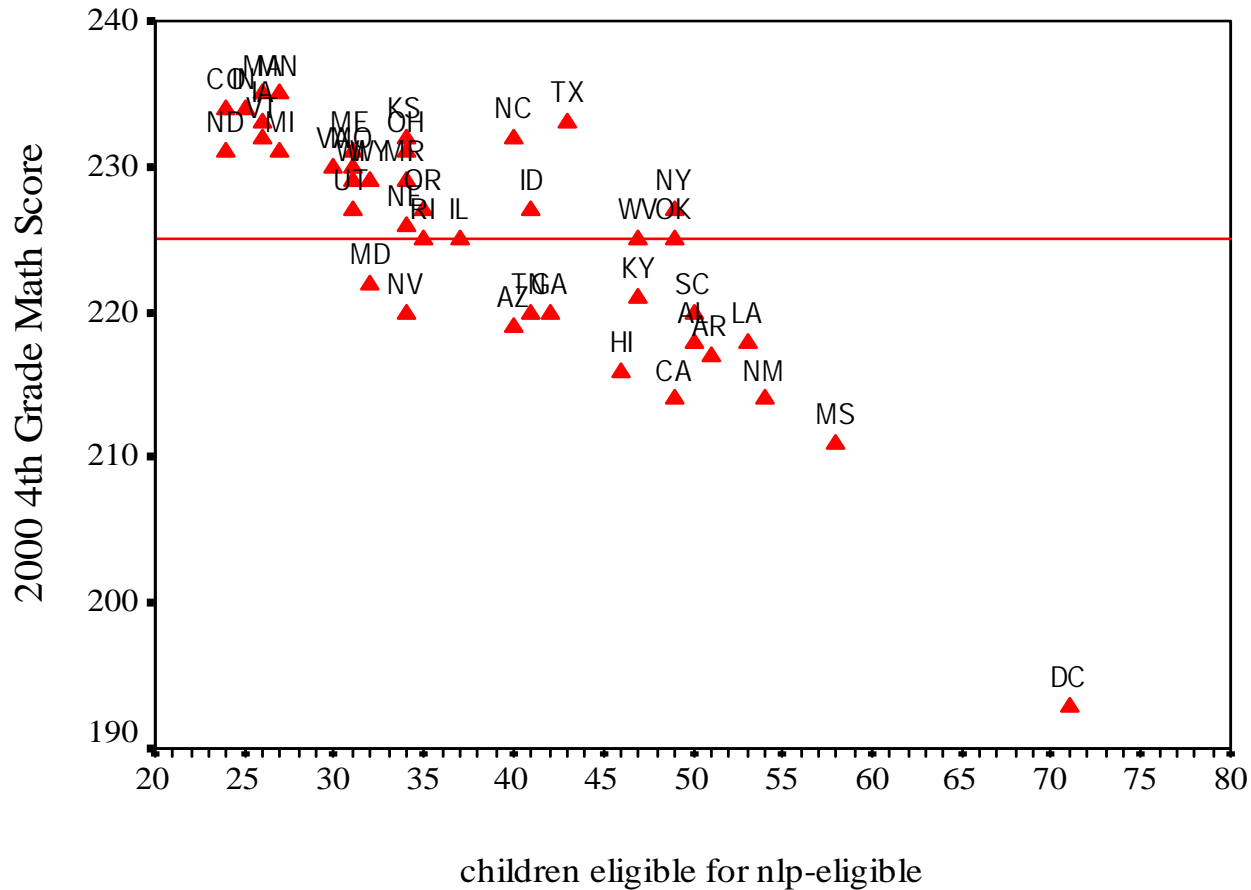
Victor Fuch and Diane Reklis, Adding up the Evidence on Readiness to Learn, Jobs and Capital, Summer, 1997, pg. 27-29

High/Scope Perry Study Impact of Preschool Enrichment Programs on High Risk Children in the U.S.



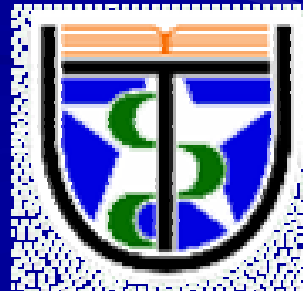
*Significant Benefits, The High/Scope Perry
Preschool Study Through Age 27, High Scope
Educational Research Foundation Number 10,
High Scope Press, 1993*

2000 4th Grade Math by %NPL Eligible

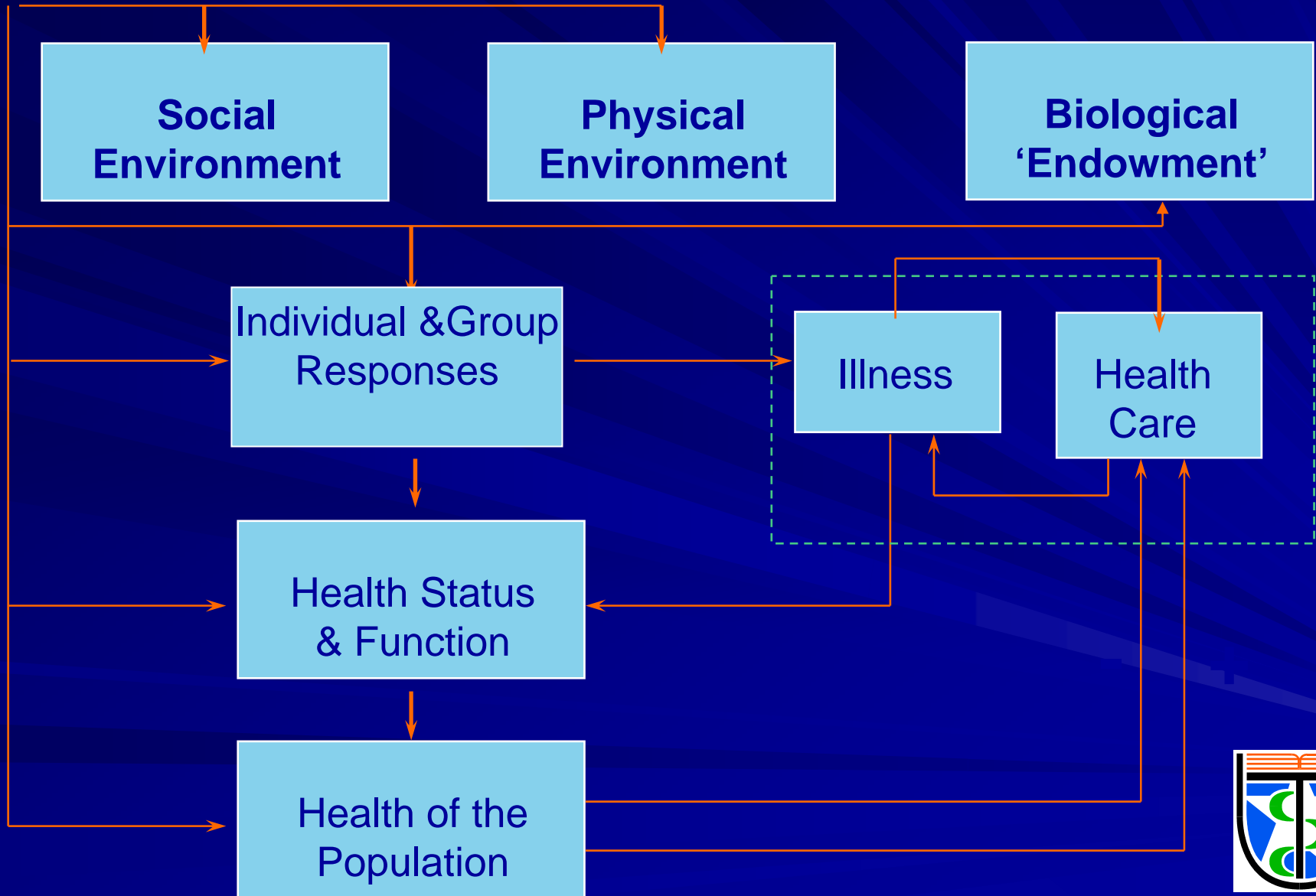


NPL Status: Non-Eligible

$\rho = 0.87, \rho^* = 0.80$ * DC Excluded

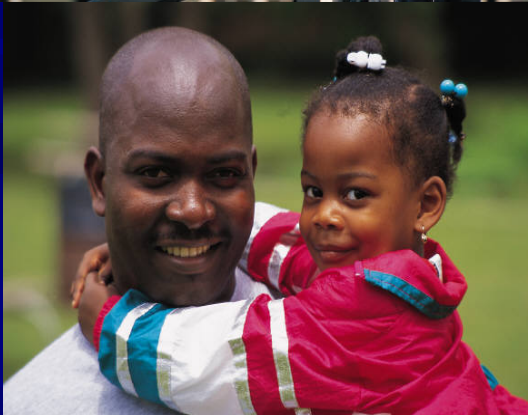


Population Health Determinants



Determinants of Health

Who you are
Where you live
How you live



Conditioning Factors

- Physical Environment
- Family Structure and Resources
- Early Childhood/Life Experiences
- Work/Family Setting
- Psychological Factors
- Social Factors
- Economic Factors

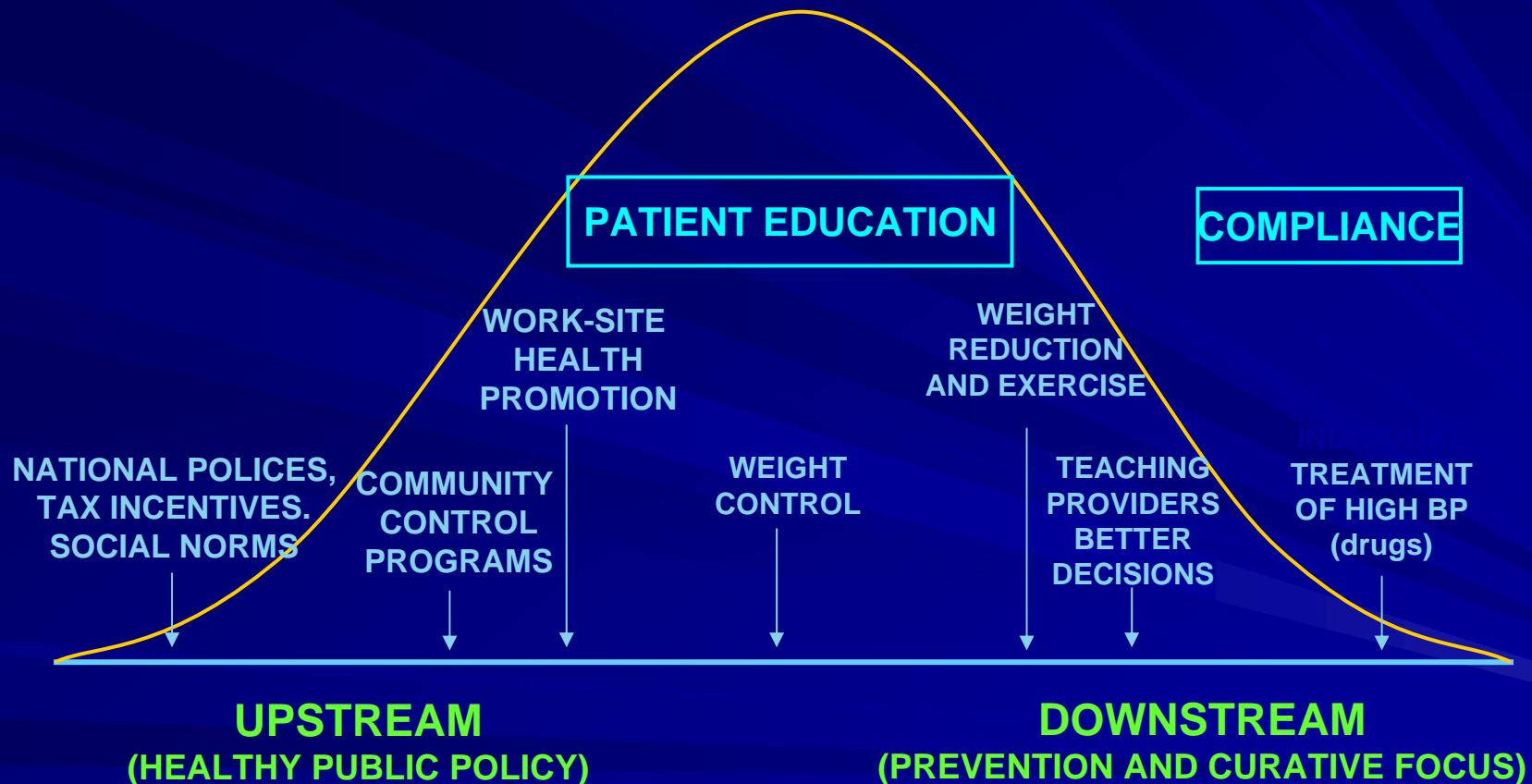


The “Solid Facts” About Social Determinants of Health

- People's social and economic circumstances affect their health throughout life
- Stress harms health
- The effects of early life last a lifetime
- Context matters, especially family SES
- Healthy food is political
- Social exclusion creates misery and costs lives
- Stress in the workplace increases disease:
 - effort/reward
 - personal control
 - job insecurity
 - unemployment
- Social support matters

Sir Michael Marmot, Texas Institute for Society and Health Lecture, Houston, 2001

The Range of Intervention Opportunities for Hypertension



Levels of Causation and Corresponding Types of Health Intervention

I. SOCIAL STRUCTURE (social position)

- Social Class
- Age
- Gender
- Race/Ethnicity

HEALTHY PUBLIC POLICY

II. ENVIRONMENTAL INFLUENCES (places)

- Geographic Location
- Housing Conditions
- Occupational Risks
- Access to Services

ORGANIZATION AND
COMMUNITY INTERVENTIONS

III. LIFESTYLE INFLUENCES (individual behaviors)

- Smoking
- Nutrition
- Physical Activity
- Psychosocial Factors

PRIMARY AND
SECONDARY PREVENTION

IV. PHYSIOLOGIC INFLUENCES

- Blood Pressure
- Cholesterol
- Obesity

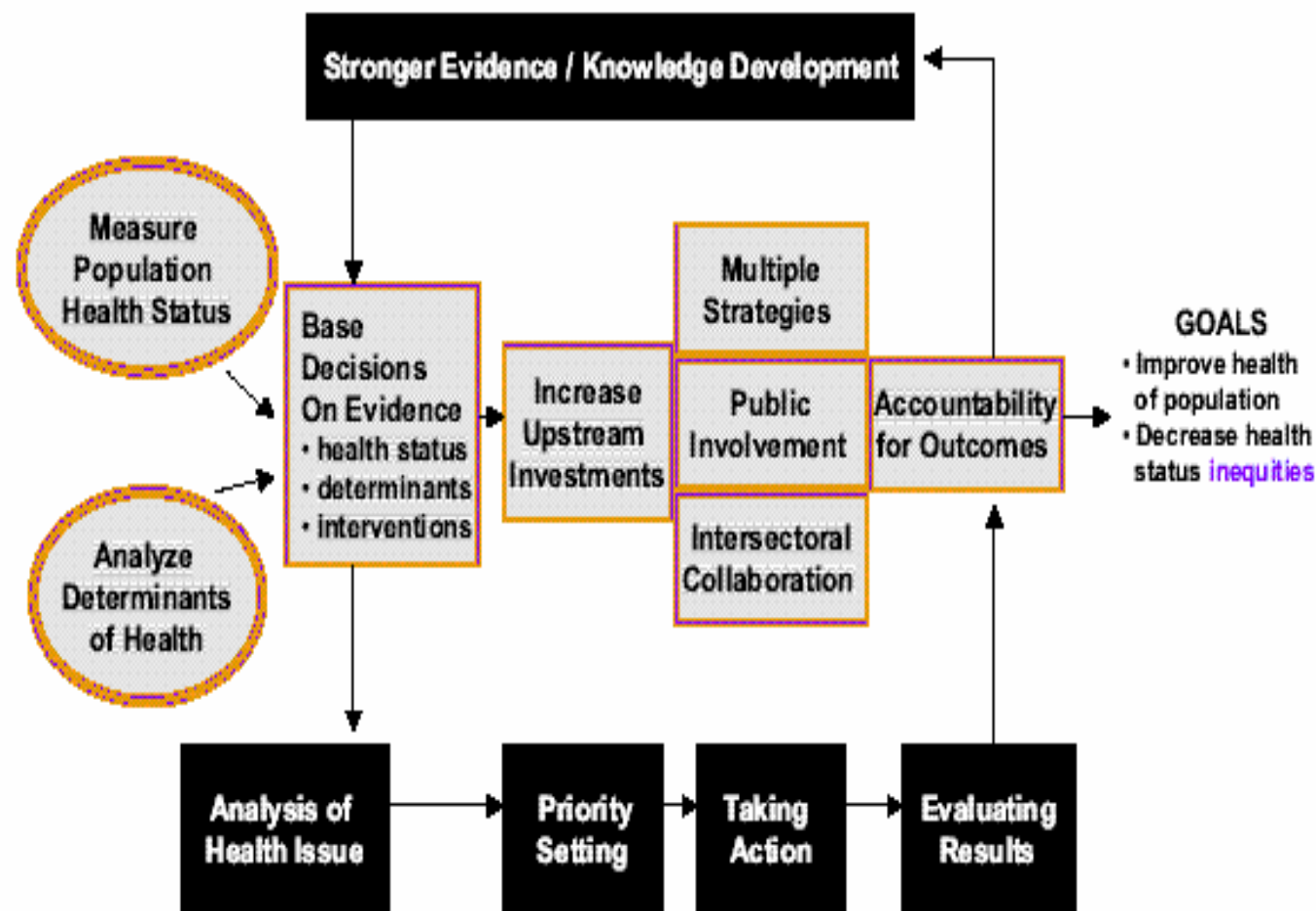
SECONDARY PREVENTION

CORONARY HEART DISEASE



Population Health
Santé de la Population

Population Health Key Elements



Legend



Population Health Key Elements



Generic Process Steps

Key Elements and Actions that Define A Population Health Approach

GOALS : Improve **health** of **population** and decrease **health** status inequities.

.Measure Population Health Status -- Analysis of Health Issue -- Analyze Determinants of Health



Priority Setting: Base Decisions on Evidence

Taking Action: Need Multiple Strategies

**Increase Upstream Investments
Ensure Intersectoral Collaboration**

**Evaluating Results:
Obtain Stronger Evidence
Promote Knowledge Development**

Must have Public Involvement

Must assign **accountability for outcomes**

See the **Population Health Template** at www.population-health.ca